

11-10: Modeling Data with Polynomials

Example 1: Matt Mitarnowski rolled a ball down an inclined plane in a physics lab. He accurately measured the total distance traveled by the ball as a function of time and obtained the following data:

Time (sec)	1	2	3	4	5	6	7	8
Distance (cm)	3	12	27	48	75	108	147	192

- Does a polynomial model of degree less than 5 exist for this data? If so, what degree?
- Write a formula to model the data.

Example 2: Fit a polynomial model to the data.

x	1	2	3	4	5	6	7	8
y	8	15	34	71	132	223	350	519

Homework:

"Action may not always bring happiness, but there is no happiness without action." --Benjamin Disraeli, Former British prime minister